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ABSTRACT

This paper describes a set of sentence meaning skills which has been identified to help teachers better focus their instruction in reading comprehension. The specific skills in the sentence meaning strand are developed through two sets of objectives: an analysis aspect, where the focus is on identification and understanding of details, and a synthesis aspect, where the learner paraphrases or restates the meanings conveyed by varied sentence structures. This strand is a logical progression of skills that teachers may wish to implement with commercial materials. It is strongly recommended that content area texts (e.g., social studies, science) be used as opposed to only basal readers. Once the skills have been integrated into the regular comprehension program, teachers may wish to determine through testing whether the students can use sentence meaning skills independently. Students able to use particular skills should be involved in activities requiring them to apply the skills in a variety of contexts. (JM)

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FOCUSING READING COMPREHENSION INSTRUCTION:

SENTENCE MEANING SKILLS

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FOCUSING READING COMPREHENSION INSTRUCTION:

SENTENCE MEANING SKILLS

RATIONALE

This paper describes a set of sentence meaning skills which has been identified to help teachers better focus their instruction in reading comprehension. A survey of elementary basal readers and related workbooks* revealed that commercial materials place little emphasis on developing specific skills which can assist a child in comprehending a sentence. More frequently, the skills emphasized relate to developing vocabulary and passage meaning. Typically, activities for these skills include work in (1) picking synonyms and antonyms, identifying basal words, and learning affixes; and (2) getting the main idea of a passage and drawing conclusions from paragraphs. With such little devotion to sentence meaning skills, and thus relatively few instructional activities provided in the commercial materials, the amount of time and systematic attention given these skills by teachers in the classroom is questionable. It seems reasonable that until evidence is produced which indicates the sentence meaning skills are any less pertinent to learning to read than either the word meaning or passage meaning skills their being omitted or even not systematically taught in every reading curriculum is, at best, illogical.

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*American Book Company (Litton), 1968; Ginn, 1969; Houghton Mifflin, 1971; Lyons & Carnahan, 1972; Macmillan, 1970; Merrill, 1975; Scott, Foresman (study books), 1971; Scott, Foresman, 1974.

PURPOSE

The basic assumption underlying the identification of a set, or strand, of Sentence Meaning skills is that getting meaning from a sentence, or a complete thought, is an integral step in the reading process. After a reader has begun to decode individual words and get meaning from them, he must learn to perceive "groups" of words and understand the ideas they represent. The primary intent of the strand is to provide the child with the opportunity to increase his abilities to note detail, see sentence organization, attend to word order, and realize there may be a variety of ways to convey a single meaning.

WHAT ARE THE SENTENCE MEANING SKILLS?

The Sentence Meaning strand is developed through two sets of skills, one dealing with synthesis and one with analysis. The organization of the strand is shown schematically in Figure 1. Behavioral objectives (pages 17

/ Insert Figure 1 here /

and 18) have been written for each skill and have been tentatively leveled: those dealing with analysis (detail) are offered at grade levels 1, 2, 3, and 4; and objectives dealing with synthesis (paraphrase) are offered at grade levels 2, 3, 4, 5, and 6. The organizing thread for the entire strand is sentence structure, with varied and generally more complex structures at each subsequent level. To put it another way, sentence complexity is the vehicle for moving through the levels of the strand. Sentence meaning is dealt with, on the one hand, through analysis, which focuses on specific details in the context of different, increasingly more complex structures. And, on the other hand, meaning is examined through synthesis, which calls for paraphrase (restatement) of different structures.

Analysis

The analysis aspect of the strand requires the learner to focus solely on a single detail within a sentence. The underlying assumption is very straightforward: Sentence comprehension is built from the understanding of specific details. Too often this basic first step is overlooked or given less attention than it demands. While most learners should have little difficulty with the detail objectives, there is reason to expect that any difficulty at this most basic level must be dealt with before progress can continue.

Synthesis

The synthesis aspect of the strand involves the learner in paraphrasing given structures. Here the assumption is that one of the most effective ways in which a learner can demonstrate his understanding of a sentence is by restating it in a different but meaningfully equivalent way. Paraphrase can follow either of two strategies: rearranging words or substituting words (synonyms).

Rearranging the words of a sentence or "transforming" it alters the syntactic structure. According to Chomsky (1969) the meaning of a sentence is very much affected by the syntactic structure. Likewise, Fries (1940) says that "the order of the words as they stand in a sentence has become for modern English an important device to show grammatical or structural relationships." And after an extensive review of the literature, Foust (1973) concluded that it is "a well-established conclusion that word order plays an important role in the conveyance of meaning through English

sentences." Because of the evidence supporting the idea of a strong relationship between word order and the meaning conveyed, the skill of changing word order within a sentence without altering meaning was included as part of the paraphrase skill.

Substituting for one or more words requires the learner to express a given meaning in a different way. The process can, among other things, help him to recognize redundancies in the English language. Smith (1971) has suggested that one cause of the difficulty encountered by poor readers is their inability to make full use of syntactic and semantic redundancy. He argues that fluent readers of familiar materials go directly from the visual features of prose to the deep structure by making use of the syntactic and semantic redundancy that exists within sequences of words. Such fluency is attained only through practice and experience.

Structure

Sentence structure provides the context in which the skills in the analysis and synthesis aspects are developed. The general specifications for the types of written sentences that should be used for instruction at each level are described in the paragraph that follows. Explicit structural specifications are described in detail in the next section of this paper.

The basic structures emphasized at each level are summarized in Figure 2. Note that the structure at each level relates to the synthesis and analysis aspects at each level by providing the context for developing the specific detail and paraphrase skills.

/ Insert Figure 2 here /

Simple sentences are designated at grade levels 1 and 2. The main difference is that at grade level 1 the sentences may be read aloud by the teacher, while at grade level 2 the learners are expected to work independently. Compound sentences and complex sentences with one clause are introduced at Level 3. At Level 4 the sentences may include two clauses, and at Level 5 the clauses, themselves, become more complex with the addition of prepositional phrases. At Level 6 the only restriction is that the sentences be of the types learners typically encounter by the end of their elementary school experience. While sentence structure is systematically varied at subsequent levels in the strand to increase complexity, present knowledge would not support a claim that the levels are arranged in any hierarchy of absolute difficulty. The structures offered do provide the learner with a variety of contexts for dealing with sentence meaning. In addition to general structure, sentence length and vocabulary complexity should be considered when appropriate in selecting materials to teach the strand.

EXPLICIT STRUCTURAL SPECIFICATIONS FOR INSTRUCTIONAL EMPHASIS

To give substance to the general structures summarized in Figure 2, more explicit specifications were developed for the sentences at each level. These specifications are given in Table 1. In practice, the

/ Insert Table 1 here /

specification at a given level provides an additional focus for instruction designed to help learners deal with sentences as they are actually written. The specifications concern function words, substantive words, and negatives at various levels in the strand.

Function Words

Function words are included because they are the "connectors" of meaning in the English language. Fernald (1904) defined the role of connectives in language quite adequately.

> There are certain words that express the great essentials of human thought, as objects, qualities or actions; these are nouns, adjectives, and verbs. Such words must always make up the substance of language. Yet these are dependent for their full value and utility upon another class of words, the thought-connectives, that simply indicate relation; these are prepositions, conjunctions, relative pronouns and adverbs. If we compare words of the former class to the bricks that make up the substance of a wall, we may compare those of the latter class--the thought-connectives--to the mortar that binds the separate elements into the cohesion and unity of a single structure [p. vii].

Katz and Brent (1968) studied the developmental differences in understanding linguistic connectives and statements of relationships. Their results showed that between grades one and six there is a marked increase in children's ability to clearly verbalize both causal and temporal relationships and the manner in which they are related by connectives. Also, there appeared to be an increase in preference for the linguistic order of clauses to reflect the actual chronological order of events. Robertson (1968) found a significant relationship between fourth, fifth, and sixth graders' understanding of connectives in reading and of ability in listening, reading, and written language. Her results also showed a significant variation in students' understanding of a connective at each grade level. As a result of his study, Rodgers (1974) stated that "An awareness of connectives as signals of relationships between ideas is vital to intelligent reading and intelligible speaking."

The function words or connectives have been grouped into several categories for purposes of instructional emphasis. The categories include coordinate conjunctions, subordinate conjunctions, prepositions, and common word orderings--passive construction. The specific structure descriptors in Table 1 show how the function words have been placed and emphasized at given levels. The meaning of each function word is always tested via the paraphrase skills.

Coordinate and subordinate conjunctions. The coordinate conjunctions are placed at Levels 1, 2, and 3. The subordinate conjunctions are introduced at Level 3. The conjunctions were included because there is evidence to link them with comprehension. Clark (1970) studied the oral speech of young children and confirmed his prediction that coordination is the first construction to appear; and that subordination with the subordinate clause appearing in second place precedes subordination with the clause appearing in first place. Stoodt (1972) examined the relationship between a subject's understanding of conjunctions and his reading comprehension and found the two to be significantly correlated.

Prepositions. Positional, directional, and temporal/abstract usages of prepositions are emphasized at Levels 1, 2, and 3, respectively. Foust (1973) determined that although learners use prepositions quite early, they are unable to define their meaning. He categorized a group of frequently occurring prepositions into the positional, directional, temporal, and abstract classes and found a respective hierarchy. The placements shown in Table 1 are based on Foust's work.

Common word orderings. Function words which usually occur in a particular order, such as the "by" and "to" in the passive construction, are focused on at Level D. Gleason (1969) has pointed out that the English language places special reliance on the role of syntax in the comprehension process. He states,

> the burden of the message is carried by the way in which words are arranged into sentences, the syntax.... Word order is so important in English that when it becomes reversed, as it is in the passive, it becomes very hard to learn. If, for instance, you show first graders two pictures, one of a cat chasing a dog and the other of a dog chasing a cat, and tell them to point to the picture called "the cat is chased by the dog," only about half will respond correctly. They ignore the little words, including the prepositions, that signal the passive and pay attention to the word order [p. 18-19].

Since the passive voice has been identified as a specific construction related to comprehension difficulties, it was selected for instructional emphasis.

Substantive Words

In addition to the types of function words already discussed, selected substantive words are given attention in determining the specific structures as summarized in Table 1. At Level 1 and 2, the substantive words are dealt with in the context of simple sentences and within the detail aspect of the Sentence Meaning strand. At subsequent levels the substantive words may be dealt with in either the detail or the paraphrase aspect. Objects, modifiers and pronouns were selected for special emphasis on the basis of experiences gained in developing materials for pilot versions of what has turned out to be the Sentence Meaning strand. The observation was that

pupils who were generally able to handle assessment items dealing with the detail aspect of sentence meaning had inordinate difficulty with items in which these substantive words contributed directly to the correct responses to test items.

Negatives

Negative constructions are included in the specifications because some researchers (Kennedy, 1970) feel that their presence makes comprehension more difficult. Certain studies (Wason [1959, 1961, 1965]; Wason and Jones [1963]; and Gough [1965, 1966]) have indicated that reaction time to negative sentences is longer than to affirmative sentences. Just and Carpenter (1971) report,

> The fact that affirmatives are unmarked and negatives are linguistically marked is completely correlated with the finding in this study and previous studies that affirmatives are psychologically less complex than negatives.

They further suggested from Greenberg's (1966) linguistic data the generalization across languages that all syntactic negatives are psychologically more difficult to process than corresponding affirmatives. This evidence seems to warrant the inclusion of negatives as a specific focus for instruction designed to improve the comprehension of sentences.

SPECIFIC SKILLS AND OBJECTIVES

As shown in the discussion of Figure 1, specific skills in the Sentence Meaning strand are developed through two sets of objectives: (a) an analysis aspect, where the focus is on identification and understanding of details, and (b) a synthesis aspect, where the learner paraphrases, or restates, the meanings conveyed by varied sentence structures. Sentence structure, as

shown in Figure 2, is treated as a vehicle for developing the skills and stating the objectives in each aspect of the strand. Treatment of the entire strand is summarized in Table 2, which shows the sentence structures and the focus of each set of objectives at subsequent levels.

/ Insert Table 2 here /

Detail Aspect

Objectives for the detail skills (Levels 1, 2, 3, and 4) require the learner to get meaning from a single substantive word or a short phrase presented in a sentence. At Level 1 the word may be a verb, direct object, the object of a positional preposition, or a modifier. At Level 2 the word or phrase may be the object of a directional preposition, an indirect object, the object of an infinitive, or a pronoun in a simple sentence with or without a negative. At Level 3 the emphasis is on temporal and/or abstract prepositional phrases in sentences with clauses introduced by causal conjunctions or relative pronouns. At Level 4 detail is noted in sentences with prepositional phrases and clauses introduced by temporal conjunctions.

The detail skills should be taught concurrently with the paraphrase skills. No sequence is suggested because in his daily life the learner must cope concurrently with tasks that require application of both types of skills.

Paraphrase Aspect

The paraphrase objectives require the learner to (a) change word order, and (b) substitute words or use synonyms in restating the meaning of sentences. To change word order the learner examines a relationship between two or more ideas and then expresses the relationship in another way. In

making restatements, emphasis is on interpreting the relationship conveyed by function words. Paraphrase through substitution places emphasis on replacing substantive words.

Paraphrasing is introduced at Level 2, where the child is expected both to rearrange words and to substitute in simple negative sentences which include directional prepositions. Level 3 is very similar to Level 2, but the child works with passive--as well as active--voice sentences. Because the passive voice tends to be difficult for many learners, some of the sentence structures used to present this construction are slightly "easier" than those specified for use with the Level 3 detail skills (see Figure 2), i.e., some of the sentences to be restated are simple sentences.

At Level 4 the child rearranges or substitutes within sentences containing two clauses. At Level 5, substituting for prepositional phrases within complex sentences is emphasized. Level 6 differs from Level 5 in that the child uses all previously learned paraphrase skills to make both fewer and more sentences from the stimulus sentence(s).

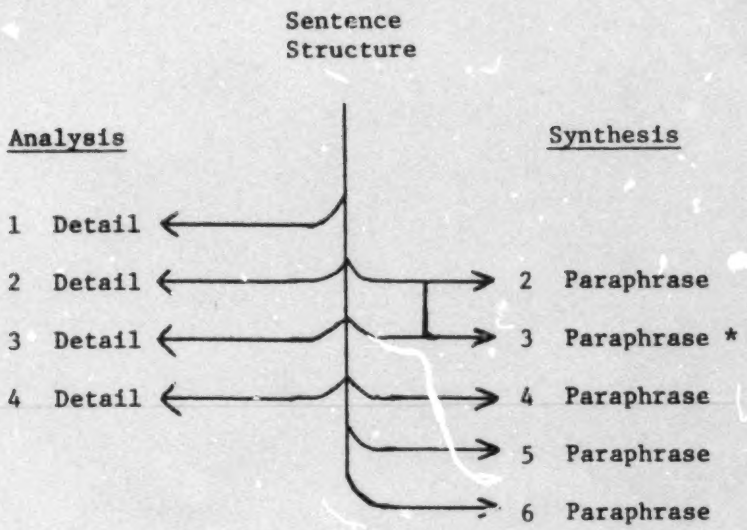
INSTRUCTION/ASSESSMENT

Including these sentence meaning skills in their reading comprehension instruction should help teachers focus their efforts when developing children's ability to learn to read. As alluded to earlier, this strand of skills is not presented as a hierarchical arrangement. Rather, it is a "logical progression" of skills that teachers may wish to focus on as a means of sharpening particular reading comprehension skills.

To implement these skills in a classroom reading program teachers need to determine which commercial materials can be easily adapted for teaching the skills. It is strongly recommended that content area texts (e.g., social

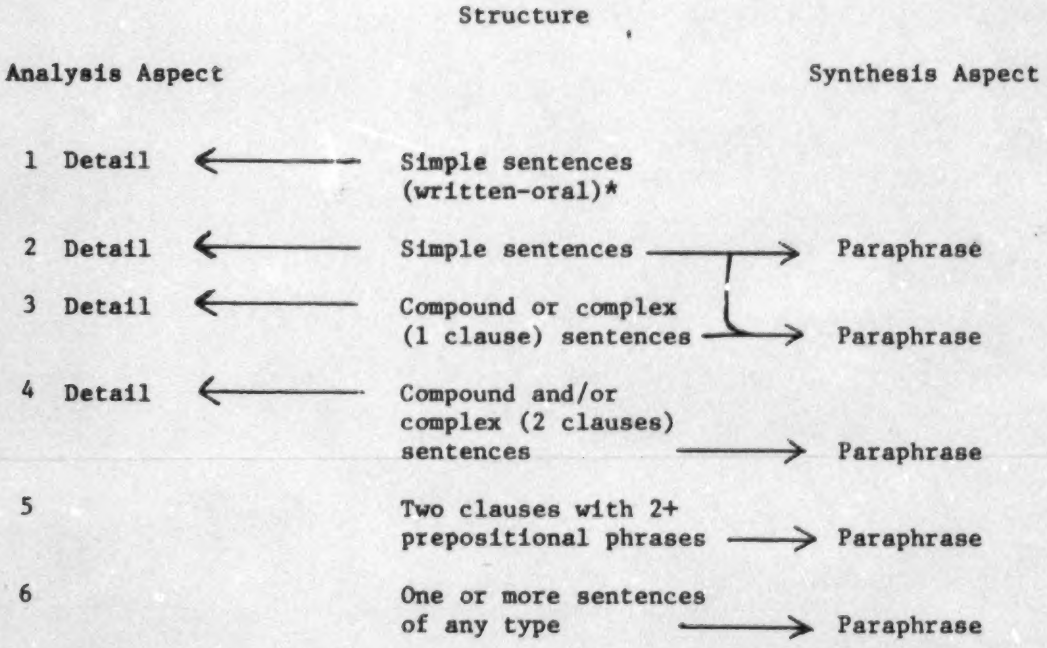
studies, science), as opposed to only basal readers, be used. As the teachers become experienced in working with the skills, they can develop their own files of materials which they find effective. The Wisconsin Design for Reading Skill Development Teacher's Resource File: Comprehension (in press) can be used as a model for setting up a filing system. It contains a list of commercial materials which are pertinent to sentence meaning skills and also several example activities for each separate skill. In developing activities to teach paraphrase skills, a conscious effort should be made to include questions which require the learner to "generate" his restatements. Allowing the child practice in the skill of rephrasing a meaning in his own words cannot be overemphasized.

Once the skills have been integrated into the regular comprehension program, teachers may wish to determine whether the students can use the sentence meaning skills independently. The Wisconsin Tests for Reading Skill Development (in press) contain diagnostic tests pertinent to the Sentence Meaning strand. Once a student has demonstrated his ability to use a particular skill, however, it is recommended that he be involved in activities which require him to apply the skill in many and varied contexts.



* Both Level 2 and Level 3 sentence structures are used to test Level 3 paraphrase skills.

Figure 1. Sentence Meaning Strand.



* Sentences read by teacher

Figure 2. Basic Sentence Structures.

Table 1

SPECIFICATIONS FOR SENTENCE STRUCTURE

Level	Basic Structure	Specific Structure		
		Function Words	Substantive Words	Negatives
1	Simple sentences (written-oral)	Coordinate: and Prepositions: positional	Objects: direct, prepositional Modifiers: adjectives, adverbs	
2	Simple sentences	Coordinate: or Prepositions: directional	Objects: indirect, prepositional, infinitive Pronouns: all	See discussion in text, page 8
3	Compound or complex (1 clause) sentences	Coordinate: but Subordinates: causal, relative pronouns Prepositions: temporal/ abstract Common word orderings: passive voice		
4	Compound and/or complex (2 clauses) sentences	Subordinates: temporal Prepositions: all usages		
5	Two clauses with 2+ prepositional phrases	Subordinates: adversative		
6	One or more sentences of any type	Conjunctions: sentence linkers		

Table 2

SENTENCE MEANING STRAND

Level	Analysis aspect	Basic Structure	Synthesis aspect
1	Detail	Simple sentences (written-oral)	
2	Detail	Simple sentences	Rearranges and substitutes for a phrase
3	Detail	Compound or complex (1 clause) sentences	Rearranges and substitutes for a phrase
4	Detail	Compound and/or complex (2 clauses) sentences	Rearranges and substitutes for more than a phrase (whole sentences)
5		Two clauses with 2+ prepositional phrases	Rearranges and substitutes (focuses on phrases)
6		One or more sentences of any type	Rearranges and substitutes in more than one sentence

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SENTENCE MEANING OBJECTIVES

Level 1

Derives meaning from sentences; notes detail

Given a short written-oral selection of simple sentences, the child identifies details: verbs, modifiers, direct objects, and objects of positional prepositions. E.g., In the sentence, "John has a red wagon," the child determines the color of the wagon.

Level 2

Derives meaning from sentences

a. Notes detail in positive and negative sentences

Given a short written selection of simple positive and negative sentences, the child identifies details: pronouns, indirect objects, objects of infinitives, and objects of directional prepositions. E.g., In the sentence, "John gave the book to Jim," the child determines who received the book.

b. Paraphrases positive and negative sentences

The child is able to restate (a) simple positive sentences in the positive and in the negative; and (b) simple negative sentences in the positive and in the negative by rearranging the order of words in the sentence and/or by substituting for one or more words.

Level 3

Derives meaning from sentences

a. Notes detail in active and passive voice sentences

The child attends to detail in sentences which are written in the active or passive voice and contain (a) temporal and/or abstract prepositional phrases and (b) either a terminal clause or an embedded part.

b. Paraphrases active and passive voice sentences

The child is able to restate sentences written in the active or passive voice and containing no more than one subordinate clause by rearranging the order of words in the sentence and/or by substituting for one or more words.

Level 4

Derives meaning from sentences

a. Notes detail in sentences with more than one subordinate clause

The child attends to detail in sentences which contain no more than two subordinate clauses.

b. Paraphrases complex sentences

The child restates sentences which contain no more than two subordinate clauses by rearranging and/or by substituting for more than a short phrase.

Level 5

Derives meaning from sentences: paraphrases complex sentences with two or more prepositional phrases

The child paraphrases complex sentences containing two or more prepositional phrases by rearranging words and by substituting for more than a short phrase.

Level 6

Derives meaning from sentences: rewrites sentences

The child paraphrases one long sentence by rewriting it into two or more sentences, and paraphrases several shorter sentences by rewriting them into one long sentence.